

Supporting Documents



THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

CAMPUS RESEARCH ETHICS COMMITTEE

TELEPHONE: (1-868) 662-2002 ext. 82755 E-mail: campusethics@sta.uwi.edu

November, 8 2021

Donna Hitlal
Department of Chemistry
Faculty of Science and Technology
Email: donna.hitlal@my.uwi.edu

Dear Donna Hitlal,

Ref: CREC-SA.1179/09/2021

Title: Teaching and learning chemistry for Generation Z – deep learning by technology aided immersion in chemistry.

I am pleased to advise that your application for research on the above captioned topic has been approved on behalf of Campus Research Ethics Committee, St. Augustine.

Approval is valid for one (1) year.

Sincerely,

Professor Jerome De Lisle
Chair
Campus Research Ethics Committee

CITI ETHICS CERTIFICATE



Completion Date **25-Nov-2019**
Expiration Date **24-Nov-2023**
Record ID **34357269**

This is to certify that:

Donna Hitlal

Has completed the following Citi Program course:

RCR Basic Course (Curriculum Group)
Group 3: ST. AUGUSTINE (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

University of the West Indies



Verify at www.citiprogram.org/verify/?wa2017480-43e4-404a-ae52-a53053d06f8b-34357269

CONSENT FORM

a. What is the purpose of this research?

This study will investigate the effect of Immersive Virtual Reality Technology on Introductory Undergraduate Chemistry students' motivation and performance in Chemistry at The UWI, STA.

b. How long it will take to complete this project?

The completion time for this project is 1 year

c. Why are you selected for this research?

You were selected for this study because you are a registered student at The UWI, STA and you are enrolled in CHEM 1066 in the academic year 2023/24.

d. Why is this document for obtaining informed consent important?

To ensure that you and other volunteers in the study are aware that Campus Ethics guideline have been followed so that this study will have extremely little or no impact on you. Consenting to participate will mean that you are prepared to be a part of the study.

e. What do we expect you to do in this study?

You will be asked to answer 2 questionnaires and a quiz online.

1. A Chemistry Motivation Survey
2. A Demographics Survey
4. A Chemistry Quiz

f. Which procedures are investigational, which are routine? What is the expected duration, how frequently you have to participate and where will the activities take place?

The surveys will all be done online and any meetings with students will be done virtually. Each survey should take approx. 10 minutes to complete and will be collected when students find it convenient during semester 1 academic year 2023/2024

g. How many participants are involved in the study approximately?

Approx. 120 students will be involved in the study

h. What are the risks or discomforts that may result from your participation in the study?

There are no risks associated with this study.

i. What help and treatments are available if any adverse reactions occur? How can you access them? Is there any compensation available if serious adverse effects occur?

There are no risks associated with this study.

j. Are there any potentially beneficial treatments or procedures that are withheld for the purpose of the study?

No. There are no treatments to be withheld.

k. Are there any anticipated circumstances under which the study/participation may be terminated by the researchers without regard your consent?

There are no anticipated circumstances under which you may be terminated by the researcher without regard your consent.

l. What are the benefits to you (and the wider society) by this study? (State clearly if there is no direct benefit to the participant, but only societal benefit)

This project will be the first of its kind in our Caribbean region and if found to increase students' motivation and interest in chemistry and to increase students' performance, then the VR technology could possibly change the way that we teach chemistry. With chemistry having an impact on all areas of life from food technology, medicines, pharmaceuticals, cosmetics and so much more, chemists are always in demand. If this new strategy of teaching chemistry with virtual reality is found to increase student motivation, interest and performance, then this study will indeed be beneficial to chemistry as a profession.

m. Does this study involve more than minimal risk? Are there any appropriate alternative procedures or courses of treatment that might be advantageous to you?

There are no risks associated with this study.

n. Do you have the right to pursue the alternatives?

Yes. The you can pursue any alternative.

o. How will confidentiality be maintained regarding your data? Who will have access to the data, how the data will be reported and /or published?

The data will be stored on the personal computer owned by the researcher, Donna Hitlal. This computer is outfitted with a password that is only known to the researcher. This information will be stored for a maximum of 3 months from collection. There will be no names or student numbers collected in any of the surveys. The surveys will be 100% confidential and all data will only be exposed to the researcher and the supervisor. The data will not be duplicated, nor will it be made available to any other person or

organization under any circumstances. The data will be published as part of the researcher's PhD thesis.

p. Are there any costs involved and are there any compensations provided?

There are no costs or compensation to the volunteers of the study.

q. Do I have the freedom to withdraw from the study anytime?

Yes. You can withdraw from this study at any time.

r. Will withdrawing from the study have any impact on my treatment?

There will be no impacts on you for withdrawing from the study.

s. Do you have to right to ask questions anytime during the study? Whom should you contact? (Including a member of the UWI Ethics Committee).

Questions can be asked at any time during the study.

The Primary researcher contact is as follows:

Donna Hitlal

Telephone contact: 868-684-3622

Email: donna.hitlal@my.uwi.edu

Researcher's Supervisor:

Dr. Denese Beckles

The Department of Chemistry

Faculty of Science and Technology

Email: denese.beckles@uwi.edu

Campus Ethics can also be contacted at campusethics@sta.uwi.edu for any queries.